

In the Claims:

Please amend the claims as follows:

1-14 (Canceled).

15. (Currently amended) A light beam detection system comprising:
an area sized to receive the light beam;
a beam separator disposed in the area to separate a small portion of the
light beam from a remainder of the light beam to provide a separated light beam
and a remainder light beam and to transmit the separated light beam to a
spectroscopy device;
an imaging device disposed in the area to operably receive the remainder
light beam to provide an image therefrom; and,
a spectroscopy device optically connected to the beam separator to
receive the separated light beam to provide a spectrum therefrom, wherein the
beam separator is located substantially in front of and does not touch the imaging
device and ~~The light beam detection system of claim 14~~ wherein the system
further comprises a first focusing element in front of the beam separator and a
second focusing element between the beam separator and the imaging device,
the first focusing element and the second focusing element located to provide a
first conjugate image plane substantially at the beam separator and a second
conjugate image plane substantially at the imaging device.

16. (Original) The light beam detection system of claim 1 wherein the
beam separator abuts the imaging device.

17-20 (Cancelled)

21. (Currently amended) A light beam detection system comprising:
an area sized to receive the light beam;
a beam separator disposed in the area to separate a small portion of the
light beam from a remainder of the light beam to provide a separated light beam

and a remainder light beam and to transmit the separated light beam to a spectroscopy device;

an imaging device disposed in the area to operably receive the remainder light beam to provide an image therefrom; and,

a spectroscopy device optically connected to the beam separator to receive the separated light beam to provide a spectrum therefrom, wherein the system further comprises an image display device operably connected to the imaging device to display an image from the imaging device and a spectrum display device operably connected to the spectroscopy device to display a spectrum from the spectroscopy device, and ~~The light beam detection system of claim 20~~ wherein the image display device and the spectrum display device is a single display device operable to contemporaneously display both the image from the imaging device and the spectrum from the spectroscopy device.

22. (Canceled).

23. (Currently amended) ~~The light beam detection system of claim 22~~
A light beam detection system comprising:

an area sized to receive the light beam;

a beam separator disposed in the area to separate a small portion of the light beam from a remainder of the light beam to provide a separated light beam and a remainder light beam and to transmit the separated light beam to a spectroscopy device;

an imaging device disposed in the area to operably receive the remainder light beam to provide an image therefrom; and,

a spectroscopy device optically connected to the beam separator to receive the separated light beam to provide a spectrum therefrom, wherein the system further comprises an image display device operably connected to the imaging device to display an image from the imaging device and a spectrum display device operably connected to the spectroscopy device to display a spectrum from the spectroscopy device, and wherein the system further

comprises an image separator comprising a plurality of light selection elements that separates the image into a plurality of selected wavelength region images wherein each selected wavelength region image corresponds to a different wavelength region of the range of wavelengths in the light beam, wherein the image separator comprises a plurality of imaging beam splitters each of which selects for different selected wavelength regions to provide the selected wavelength region images and directs the selected wavelength region images to different imaging devices.

24. (Original) The light beam detection system of claim 23 wherein the different imaging devices are different regions of a single imaging detector.

25. (Original) The light beam detection system of claim 23 wherein the imaging beam splitters are disposed linearly along the light beam.

26. (Original) The light beam detection system of claim 23 wherein there are at least three imaging beam splitters disposed to reflect the selected wavelength region images in at least three different radial directions and the different imaging devices are disposed radially about the light beam to receive the selected different wavelength images.

27. (Original) The light beam detection system of claim 23 wherein the imaging beam splitters are disposed alternately such that a first sub-set of the imaging beam splitters direct a first set of selected wavelength region images in a first direction and a second sub-set of the imaging beam splitters direct a second set of selected wavelength region images in a second direction that is substantially 90° or 180° away from the first direction.

28. (Original) The light beam detection system of claim 23 wherein the imaging beam splitters select for all but one desired, non-selected different wavelength region to provide a non-selected wavelength region image, the image

separator further comprising an imaging device located in the light beam and behind the imaging beam splitters to directly receive the non-selected wavelength region image.

29. (Original) The light beam detection system of claim 23 wherein the different wavelength regions comprise UV to blue light, visible light, near-infrared light and infrared light.

30. (Original) The light beam detection system of claim 29 wherein the display device is operably connected to the image separator to contemporaneously display at least two images selected from the UV to blue light, visible light, near-infrared light and infrared light, and wherein the display device is further able to contemporaneously display the spectrum from the spectroscopy device.

31–37 (Canceled).